

CLAIMS

1. A welding state detecting and transmitting device to be attached to a secondary side of a resistance-welding machine, the device comprising:
 - an electricity storage means for accumulating electric power to be supplied to components within the device;
 - a charging means for charging the electricity storage means by utilizing a portion of welding current supplied through the secondary side of the resistance-welding machine;
 - a sensor for detecting indices relating to welding state; and
 - a transmitting means for wirelessly transmitting data based on the indices detected by the sensor to an external device.
2. A device as set forth in Claim 1, wherein electricity storage means, the charging means, the sensor, and the transmitting means are formed in a unified manner.
3. A device as set forth in Claim 1, wherein the charging means has a coil provided around a conductor for supplying welding current, the coil being utilized to charge the electricity storage means.
4. A device as set forth in Claim 1, wherein voltage between a pair of conductors for supplying welding current is utilized for charging the electricity storage means.
5. A welding state detecting system comprising a welding state detecting and transmitting device to be attached to a secondary side of a resistance-welding machine and an external device for receiving a transmitted data, wherein

the welding state detecting and transmitting device comprises:
a sensor for detecting indices relating to welding state; and
a transmitting means for wirelessly transmitting data based on the indices detected by the sensor, and wherein
the external device for receiving the transmitted data comprises:
a receiving means for receiving wirelessly transmitted data, and
a processing means for processing the received data and generating and outputting the processed data.

6. A system as set forth in Claim 5, wherein the external device further comprises a monitoring means for monitoring the detected welding state.

7. A system as set forth in Claim 5, wherein the external device further comprises a controlling means for controlling the resistance-welding machine based on the processed data.

8. A system as set forth in Claim 5, wherein
the welding state detecting and transmitting device further comprises:
a controlling means for controlling detection of welding state indices in accordance with detecting conditions stored within a memory,
a receiving means for receiving data wirelessly transmitted from the external device, and
a rewriting means for rewriting detecting conditions stored within the memory with a newly received data by the receiving means.

9. A system as set forth in Claim 5, wherein

the welding state detecting and transmitting device further comprises:

a controlling means for controlling transmission of the detected welding state indices in accordance with transmitting conditions stored within a memory,
a receiving means for receiving data wirelessly transmitted from the external device, and

a rewriting means for rewriting transmitting conditions stored within the memory with a newly received data by the receiving means.

10. A system as set forth in Claim 5, wherein

the welding state detecting and transmitting device further comprises:

a controlling means for controlling the welding state detecting and transmitting device in accordance with an operating program stored within a memory,
a receiving means for receiving an operating program wirelessly transmitted from the external device, and

a rewriting means for rewriting the operating program stored within the memory with a newly received operating program by the receiving means.

11. A system as set forth in Claim 5, wherein

the external device further comprises:

a means for wirelessly transmitting a data request signal to the welding state detecting and transmitting device, and

the welding state detecting and transmitting device further comprises:

a receiving means for receiving the data request signal wirelessly transmitted from the external device, and

a means for wirelessly transmitting a requested data to the external device.

12. A system as set forth in Claim 5, wherein

the external device further comprises:

a receiving means for receiving data wirelessly transmitted from the welding state detecting and transmitting device, and

a control means for controlling the resistance-welding machine based on the data received by the receiving means.